

Interactive Data Report: Overdose Data Technical Notes

Data Sources

Please be aware that not all overdose victims go to an emergency room and not all emergency departments in the Commonwealth report overdoses through syndromic surveillance.

Data for this report is from Pennsylvania's syndromic surveillance system, EpiCenter, which collects data from 155 of the 171 Emergency Departments in Pennsylvania. Some facilities provide diagnosis codes and triage notes, which allows for greater sensitivity in detecting overdose events. However, the majority of classifications are based on chief complaints.

Chief complaints may be captured by a) Dropdown menus, which generally do not allow for inclusion of specific drugs involved in an overdose or b) free text fields, which are subject to challenges associated with linguistic variation, including:

- a single symptom can be described in multiple ways by using synonyms and paraphrases;
- medical concepts are often recorded using abbreviations and acronyms that are idiosyncratic to individual hospitals;
- the same concept can be indicated with different parts of speech;
- words are frequently misspelled or mistyped in busy medical settings, causing the continual appearance of new, previously unseen errors.¹

Additionally, the possibility of variations in process at a given facility, including personnel-specific variations that can change by shift and policy-driven variations that change over longer periods of time can potentially affect syndromic surveillance data. While EpiCenter employs a variety of approaches to address these concerns, counts should be interpreted with caution. Monitoring trends associated with syndromic surveillance is much more useful and the reason rates are provided instead of counts.

Data Updates

Data is updated quarterly.

Measures

Rates and Denominators: Percent of emergency department visits related to overdose are calculated using the number of total ED visits for any cause as denominators and are based on the location of the facility. Rate of emergency department visits related to overdose per 1,000 population measures are calculated using county populations as denominators and are based on the location of the patient's residence.

Defining Classifiers:

- Any drug overdose includes overdoses of any substance, including alcohol, over the counter, prescription and illicit drugs.
- Any opioid overdose includes overdoses of any opioid substance, including prescription and illicit opiates, such as heroin and illicitly manufactured fentanyl.
- Heroin overdose includes overdoses where the chief complaint or medical notes indicate suspicion of heroin or diagnosis codes indicate heroin as the cause of the overdose.

Limitations of Estimates: Due to limitations in the data collected by EpiCenter, any opioid and heroin overdoses are most likely underestimates of the proportion of visits or residents whose overdose was caused by an opiate. This is due to non-specific chief complaints which do not indicate drug(s) involved in the overdose and the relatively low number of facilities submitting diagnosis codes (during October 2016 – July 2017, only 77/151 (51%) of facilities submitted diagnosis codes for $\geq 70\%$ of registrations). Despite the fact that these estimates have been shown to consistently underestimate the measure, they are nonetheless useful to demonstrate trends over time.

Consistency with other reports: Differences with other published reports may occur due to differing case definitions or time lags. EpiCenter data changes as facilities update data while the analytic overdose data files are a snapshot in time.

Disclaimer

The PDMP Office is continuously working to improve the quality and timeliness of the data. The interactive data report represents a snapshot of overdose data as of 04/13/2018 and is subject to change.

References

1. A. Shapiro. Taming variability in free text: application to health surveillance. *MMWR Morb Mortal Wkly Rep*, 53 (2005), pp. 95-100.